

a mixture of cement composition foam forming and foam stabilizing surfactants  
present in an amount sufficient to facilitate the formation of and stabilize said foam.

#### REMARKS

In the Office Action, the Examiner stated that claims 22-40 are allowed. Claim 21 was rejected under 35 U.S.C. § 102 as anticipated by or, in the alternative, under § 103 as obvious over Reddy et al. (US 6,273,191B1). Applicants respectfully submit that the rejection of claim 21 as amended is improper. Amended claim 21 is in condition for allowance and such action is respectfully requested.

#### **I. Claim 21, as amended, is not obvious over prior art.**

In order to satisfy a prima facie case of obviousness, the prior art must contain some teaching, suggestion or incentive that would have motivated an artisan to modify the reference. *See, In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The prior art must teach or suggest all of the limitations of the claims without the slightest recourse to the teachings in the application. *See, Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd.*, 927 F.2d 1200, 18 U.S.P.Q.2d 1016 (Fed. Cir. 1991). The proper test is whether "the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success." *In re Dow Chemical Co. v. American Cyanamid Co.*, 837 F.2d 469, 473, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988).

In the present invention, amended claim 21 is directed to a foamed cement composition having a set pumping time and a quick set at temperatures as low as about 32°F comprising a calcium aluminate cement, a lithium salt set accelerating additive, a retarder, water and a mixture of cement composition foam forming and foam stabilizing surfactants. It was discovered that

calcium aluminate compositions can be made to have a set (predetermined) pumping time, and that addition of a lithium salt set accelerating additive to foamed aqueous calcium aluminate cement compositions causes the compositions to also have a quick set (short transition time) at temperatures as low as about 32°F.

In contrast, although Reddy et al. disclose the addition of small amounts of calcium aluminate to Portland cement (0.5% to 5% by weight of cement) to shorten the transition time, Reddy et al. never disclose or suggest that calcium aluminate **totally replace** the Portland cement. Also, Reddy et al. do not disclose or suggest using a lithium salt to shorten the transition time. There is nothing in this reference suggesting to one skilled in the art that calcium aluminate could be made to have a set pumping time while maintaining a quick set using a lithium salt.

As a result, amended claim 21 is not anticipated by or obvious over the reference relied upon by the Examiner. A prima facie case of obviousness has not been established, and the rejections under § 103(a) of claim 21 as amended should be withdrawn.

### **CONCLUSION**

In view of the above amendments, remarks and authorities, Applicants submit that the Examiner's rejection of claim 21 under § 102(a and e) and § 103(a) is improper. Claims 21-40 are in condition for allowance, and such action is respectfully requested.

This is intended to be a complete response to the Office Action mailed on October 01, 2002.

I hereby certify that this correspondence is being deposited in the United States Postal Service as first class mail in an envelope addressed to: Box Non-Fee Amendment, Commissioner for Patents, Washington, D.C. 20231, on December 18, 2002.

Dana M. Coots

Dana M. Coots

Date: December 18, 2002

Respectfully submitted,

C. Clark Dougherty Jr.

C. Clark Dougherty, Jr.

Registration No. 24,208

McAFEE & TAFT

Tenth Floor, Two Leadership Square

211 North Robinson

Oklahoma City, Oklahoma 73102

Telephone: (405) 235-9621

FAX No.: (405) 235-0439

E-Mail: [clark.dougherty@mcafeetaft.com](mailto:clark.dougherty@mcafeetaft.com)

Attorney for Applicants

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

Please amend claim 21 as follows:

21. (Twice amended) A foamed cement composition having a set pumping time and a quick set at temperatures as low as about 32°F comprising:

a calcium aluminate cement;

a lithium salt set accelerating additive;

a retarder;

water in an amount sufficient to form a foam; and

a mixture of cement composition foam forming and foam stabilizing surfactants present in an amount sufficient to facilitate the formation of and stabilize said foam.